

NOTES ON TABANIDAE (DIPTERA) OF THE ORIENTAL
REGION II. DISTRIBUTION RECORDS OF SOME
TABANIDAE FROM SOUTHEASTERN PAKISTAN AND
A LIST OF SPECIES FROM PAKISTAN AND
ADJACENT AREAS¹

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Abstract.—A recent collection of horse flies from southern Pakistan indicates that this country is a complex transition area between Ethiopian-Eurasian arid-adapted species in the west and south, central Asian montane species in the north and Oriental species in the east. A list of species known to occur in or potentially occurring in Pakistan is given, based on studies in adjacent countries.

Although Pakistan is nominally placed within the Oriental Region, a recent collection of horse flies from the southeastern part of that country indicates that it is, in fact, a complex transition zone between Oriental, southern Palearctic and Ethiopian-Arid Desert species ranges. Since virtually nothing is known of the horse fly fauna of Pakistan, some recent collection records are cited below and a list of species occurring or possibly occurring there is given to facilitate identification of specimens and to stimulate interest in this zoogeographically complex area. Specimens will be deposited in the U.S. National Museum, Washington, D.C. and the collection of the author.

Tabanus dorsilinea Wiedemann

Tabanus dorsilinea (as *T. macer* Bigot) was recorded from Rawalpindi by Senior-White (1927), as well as from several areas in India. Burger (1981) discussed the distribution of this species in Sri Lanka and indicated that it is probably specifically distinct from specimens identified as *dorsilinea* by Burton (1978) from Thailand. Burton summarized the synonymy of this species. *Tabanus dorsilinea* is most common in the southern and western parts of India, probably reaching its limit of distribution in western Pakistan, and therefore is clearly part of the Oriental fauna.

Material examined.—1 ♀, PAKISTAN: Sind Prov. Lake Haleji, near Thatta (Tatta), 22 Sept. 1976, G. F. Hevel & R. E. Dietz IV, Collectors.

Tabanus laetitinctus Becker

This species has not previously been reported from Pakistan. It is a southern Palearctic species characteristic of montane-steppe areas in the southern part of

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the Soviet Union (southern Turkmenia, Tadzhikstan, Uzbekistan and Kirghizia) (Olsufjev, 1977). It is also recorded from Afghanistan, Iran, Iraq and Turkey. Olsufjev (1977) stated that the larvae are found in irrigation ditches, springs and rivers, from data of Kadyrova (1972). The male from Pakistan is the paler nominative subspecies, *T. laetitinctus laetitinctus* as stated by Olsufjev (1977).

Material examined.—1 ♂, PAKISTAN: Sind Prov., Miani Forest, near Hyderabad, 24 September 1976, Coll. G. F. Hevel & R. E. Dietz IV.

Tabanus sufis Jaenicke

Tabanus sufis is widely distributed in the arid and semi-arid parts of northern and northeastern Africa through the Middle East to Pakistan, and appears to be well adapted to arid environments. Excellent taxonomic descriptions of this species are given by Oldroyd (1954) and Efllatoun Bey (1930) and the distribution of this species has been discussed for Africa (Oldroyd, 1954), Egypt (Efllatoun Bey, 1930) and Iran (Abbassian-Lintzen, 1961, 1964). Jezek (1980) has mapped its entire known range from Africa to Pakistan. Senior-White (1927) records a specimen from Punjab in the British Museum (Natural History) collection. Strictly speaking, this species should be considered southern Palearctic, but adventive into semi-arid parts of the Ethiopian Region.

Material examined.—3 ♂, 1 ♀, PAKISTAN: Sind Prov., Miani Forest, near Hyderabad, 24 September 1976, Coll. G. F. Hevel & R. E. Dietz IV.

DISCUSSION

Pakistan can be considered a transition area for Tabanidae, with montane-steppe Palearctic species to the north, Ethiopian-Eurasian arid-adapted species to the west and widely distributed Oriental species to the east. Nothing is known of possible precinctive species in Pakistan. For biogeographic purposes, that part of Pakistan east of the Indus River can be considered part of the Oriental Region, where species from that Region would be expected to occur, with Palearctic adventive elements from the west and north also present. The area west of the Indus River and bordering Iran would support those arid-adapted species commonly found in southeastern Iran. Northern areas adjacent to Afghanistan, the USSR, China and Kashmir are difficult to characterize accurately but species of *Hybomitra* and *Tabanus* known from Afghanistan, the southern USSR and western China would be most likely to occur there.

Based on collection records from areas adjacent to Pakistan, a list of species known to occur or possibly occurring in Pakistan is presented below for future reference. This list is based on records from Iran (Abbassian-Lintzen, 1961, 1964; Jezek, 1980, 1981b; Moucha, 1976), Afghanistan (Moucha & Chvala, 1961, 1963), the USSR (Olsufjev, 1977), India (Ricardo, 1911; Stone, 1975; Stone & Philip, 1974) and general biogeographic information on Palearctic species by Leclercq (1966). As pointed out by Jezek (1981a), it is difficult to ascertain the potential distribution of horse flies without information about the biology and habitat preferences of immature stages, since it is these stages that are most demanding of favorable habitat for development and most limited by arid environment. Until such information is available, only thorough collecting in all suitable biotopes will provide the data necessary to characterize accurately the biogeographic relationships of the horse fly fauna of Pakistan.

LIST OF TABANIDAE OCCURRING IN OR EXPECTED TO
OCCUR IN PAKISTAN

Palaearctic species.—*Mediterranean-Arid Steppe species:*

- Nemorius irritans* (Ricardo)
Chrysops flavipes askahabadensis Szilady
Chrysops flavipes gedrosianus Abbassian-Lintzen
Chrysops flavipes punctifer Loew
Haematopota pallens Loew
Atylotus pulchellus (Loew)
Atylotus quadrifarius (Loew)
Hybomitra acuminata (Loew)
 **Tabanus ansarii nigrinervis* Abbassian-Lintzen
Tabanus autumnalis brunnescens Szilady
Tabanus canipalpis Bigot
 **Tabanus gedrosiae* Abbassian-Lintzen
 **Tabanus hashemii* Jezek
Tabanus laetitinctus Becker
Tabanus leclercqi Abbassian-Lintzen
Tabanus leleani Austen
 **Tabanus mistschenkoi* Olsufjev
Tabanus mofidii mofidii Leclercq
Tabanus regularis Jaennicke
Tabanus sabuletorum Loew
Tabanus semenovi Olsufjev
Tabanus tinctus Walker
Tabanus unifasciatus Loew
 **Tabanus zeirii* Jezek
Tabanus zimini Olsufjev

Boreal-Asian species:

- Hybomitra caucasica* (Enderlein)
Hybomitra hunnorum (Szilady)
Hybomitra kuhlhorni Leclercq
Hybomitra olsufjeviana olsufjeviana (Moucha & Chvala)
Hybomitra olsufjeviana pseudozonata (Moucha & Chvala)
Hybomitra paulisseni Leclercq
Hybomitra peculiararis var. *kashmirensis* (Szilady)

Ethiopian-Eurasian species:

- Tabanus gratus* Loew
Tabanus mordax boroumandi Jezek
Tabanus sufis Jaennicke

Oriental species.—*Indo-Malaysian and Widespread species:*

- Chrysops dispar* Fabricius
Hippocentrodes striatipennis (Brunetti)
Haematopota crossi Stone & Philip
Haematopota fulvipes Stone & Philip
Haematopota kashmirensis Stone & Philip

Atylotus virgo (Wiedemann)
Tabanus dorsilinea Wiedemann
Tabanus flavimediis Schuurmans Stekhoven
Tabanus jucundus Walker
Tabanus nemocallosus Ricardo
Tabanus orientis Walker
Tabanus rubidus Wiedemann
Tabanus striatus Fabricius

*These species are quite local in distribution and would occur in Pakistan only if suitable larval breeding sites are available.

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NOTE

Two name changes for Neotropical Streblidae (Diptera)

In 1976 (Wenzel, R., Brigham Young Univ. Sci. Bull., Biol. Ser. 20(4): 1-177), I proposed the name *Phalcophila* for a new genus of batflies collected during a survey of Venezuelan mammals and ectoparasites (Smithsonian Venezuela Project). I thereby created a homonym, for, by a most unusual coincidence, Brennan and Reed (1973, J. Parasitol. 59: 706-710) had proposed the same generic name for a new chigger mite collected on that survey. A new name is proposed for the streblid taxon as follows:

Phalconomus Wenzel, NEW NAME

Phalcophila Wenzel, 1976: 15 (Type-species: *Phalcophila puliciformis* Wenzel, *loc. cit.*, p. 16) not *Phalcophila* Brennan and Reed, 1973: 708 (type-species: *Phalcophila antica* Brennan and Reed, *loc. cit.*).

In my 1976 paper (p. 127), I also described a new species of *Speiseria*, which I named *S. peytoni*, for Patricia Peyton Johnson. I here emend the trivial name to *peytonae* to give the correct ending for this patronymic, which I had inadvertently formed in the masculine gender.

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